NWS Form E-5 U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE **MONTHLY REPORT OF HYDROLOGIC CONDITIONS**	**HYDROLOGIC SERVICE AREA:** Pocatello, Idaho (PIH) **REPORT FOR:** **MONTH:** July **YEAR:** 2017
TO: Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	**SIGNATURE** Travis Wyatt Service Hydrologist / Acting **DATE:** August 13, 2017
When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (NWS Instruction 10-924).	

☐ **An X in this box indicates that *no* flooding has occurred for the month within this hydrologic service area.**

Overview:

Most of the area, except Oneida, Franklin, Eastern Bonneville, Southern Bannock and the southwest Custer counties, saw well below normal precipitation for the month. The five climate stations (Burley, Challis, Idaho Falls, Pocatello and Stanley) ranged from 0.02 inch of precipitation (0.28 below average) for Burley to 1.24 inches of precipitation (0.74 above average) for Idaho Falls. There was one precipitation record in Idaho Falls in the month of July for our 5 climate locations. The highest recorded monthly precipitation totals (non-SNOTEL and non-RAWS) were 1.29, 1.24, and 1.19 inches at the Downey CO-OP, Idaho Falls airport, and Preston CO-OP stations. The highest recorded 24-hr precipitation (non-SNOTEL and non-RAWS) occurred at the Idaho Falls airport and Preston CoCoRaHs where 1.06 and 1.05 fell respectively on the 26th and 27th. All basins, except the Teton abv Rexburg, Little Wood and Henry's Fork abv Rexburg, were below normal. Basin ranged from 50 to 173 percent of normal. The basins receiving the greatest precipitation were Teton abv Rexburg, Little Wood, and Henry's Fork abv Rexburg receiving 173%, 171%, and 110% of average precipitation respectively for the month of July-based on SNOTEL data. The basins receiving the least precipitation were the Malad, Bear, Big Lost abv Mackay, and Salmon abv Salmon receiving 62%, 65%, 67% and 67% of average precipitation respectively for the month of July-based on SNOTEL data.

Mean average temperatures ranged from 60.4 degrees F for Stanley to 79.7 degrees F for Shoshone across the HSA. Most of the area had temperatures 2 to 6 degrees above normal. The five climate stations ranged from 2.4 above normal for Challis to 5.5 above normal for Stanley. There were six high temperature records in the month of July for our 5 climate locations, one in Pocatello, two in Idaho Falls, and three in Stanley. Of the data available for the month, the stations (non-SNOTEL and non-RAWS) within the HSA reaching the highest 24-hour temperatures were Shoshone , American Falls, and Pocatello COOP stations reaching 104°F, 103°F, and103°F respectively on the 15th, 8th, and 5th. The station (non-SNOTEL and non-RAWS) with the lowest recorded temperature were the Stanley and Tetonia COOP stations at 29°F and 37°F respectively on the 10th and 9th .

For the month of July, all rivers finally started to drop with SNOTEL's melting out. The Big Wood near Hailey and the Teton River near Driggs dropped out of minor flood stage by the first week of July. The first half of the month multiple high mountain backcountry roads, trails, and campgrounds remained flooded or damaged from excessive snowmelt for the Central Mountains in Custer and Northern Blaine counties. The Areal flood

warning covering these areas was dropped July 14th. On July 26th and 27th, strong thunderstorms caused localized flooding, mostly to streets and basements, for the towns of Idaho Falls and, to a lesser extent, Preston.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the eastern Idaho forecast is a 33 percent chance for below normal temperatures and a 33 percent chance for below normal precipitation. The one-month forecast graphics are below. For the three-month outlook, the temperature forecast is a 50 percent chance to be above normal. As for three-month outlook for precipitation, the outlook is equal chances for above or below normal.

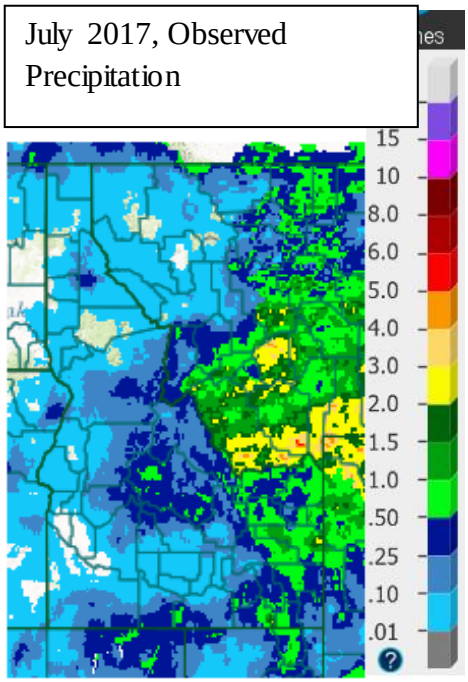
Reservoirs last month overall increased storage in the Upper Snake River basin system with high irrigation demand and are currently sitting at 84% of capacity overall for capacity in the Upper Snake River system. Compared to last year at this time, it was about 40% of capacity. As of August 12, 2017, Oakley, Milner, American Falls and Blackfoot have the lowest percent of average capacity at 54%, 71%, 79% and 87% of average respectively. All other reservoirs are at or above 90% capacity. All reservoirs are above average for this time of year. Some reservoirs are well above average. Mackay, Little Wood and Magic reservoirs are at 198 %, 181 % and 180 % of normal for this time of year.

Current streamflow conditions in eastern Idaho are much above normal for the lower Snake River and the headwaters of the Salmon. The rest of the basins are normal to above normal. (see USGS streamflow graphic below).

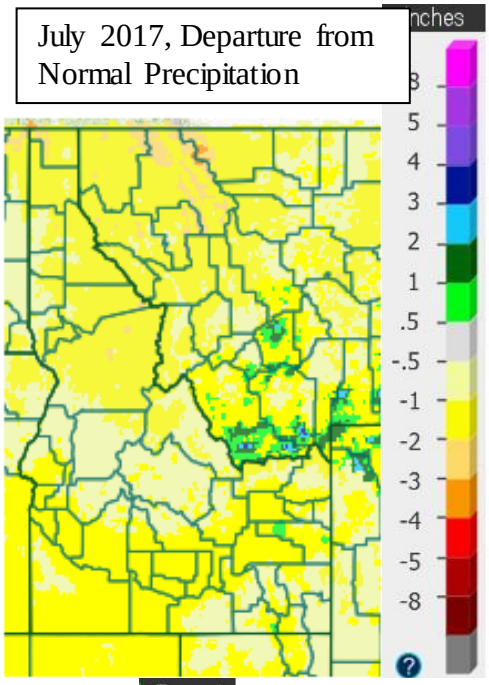
Drought conditions across eastern Idaho continue to be 0 percent currently as reflected on the latest U.S. Drought Monitor. The latest update of the U.S. Seasonal Drought Outlook shows the Northern panhandle of Idaho in abnormal dry conditions with a small portion of extreme northwest Idaho in moderate drought.

Precipitation:

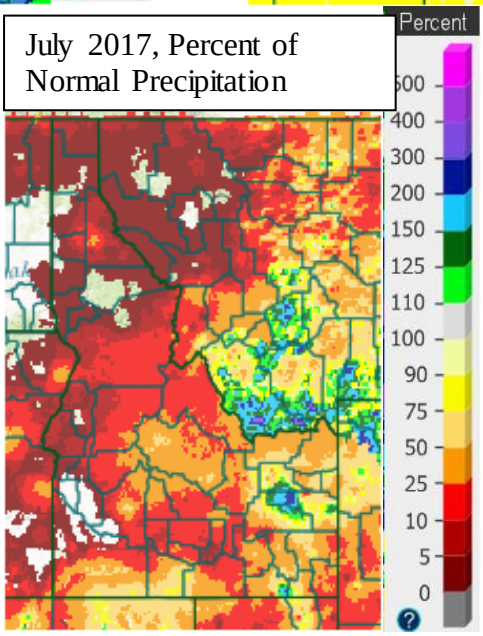
July 2017, Observed Precipitation



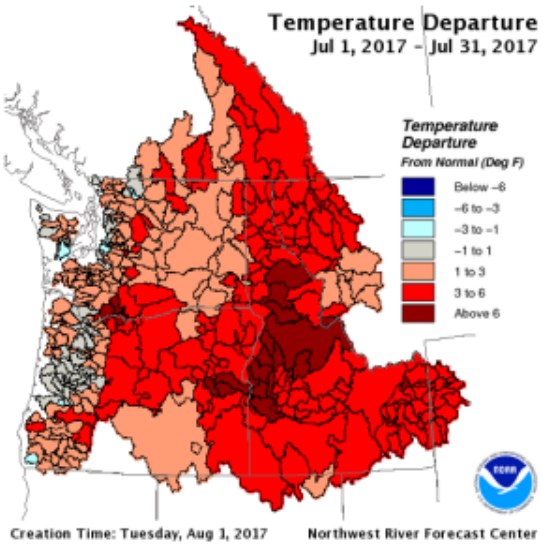
July 2017, Departure from Normal Precipitation



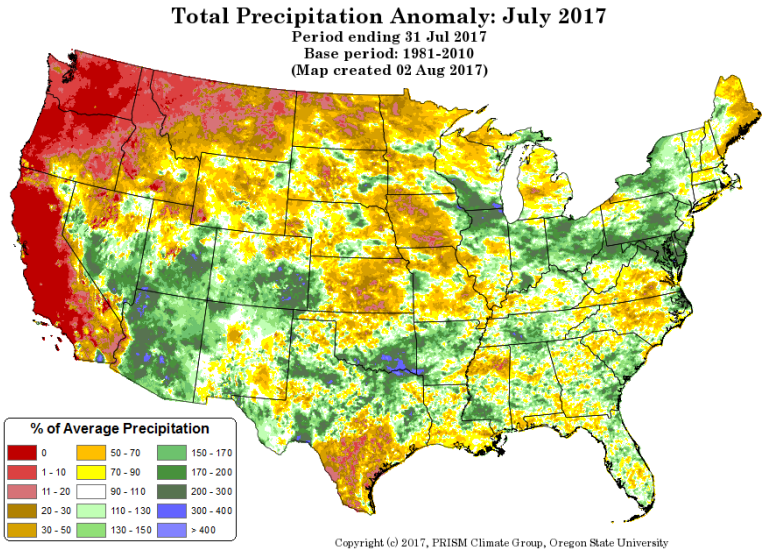
July 2017, Percent of Normal Precipitation



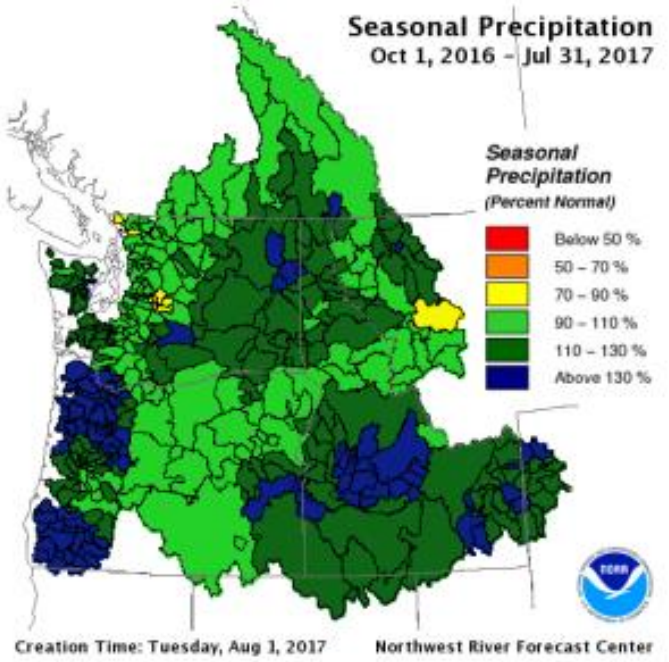
http://water.weather.gov/precip/



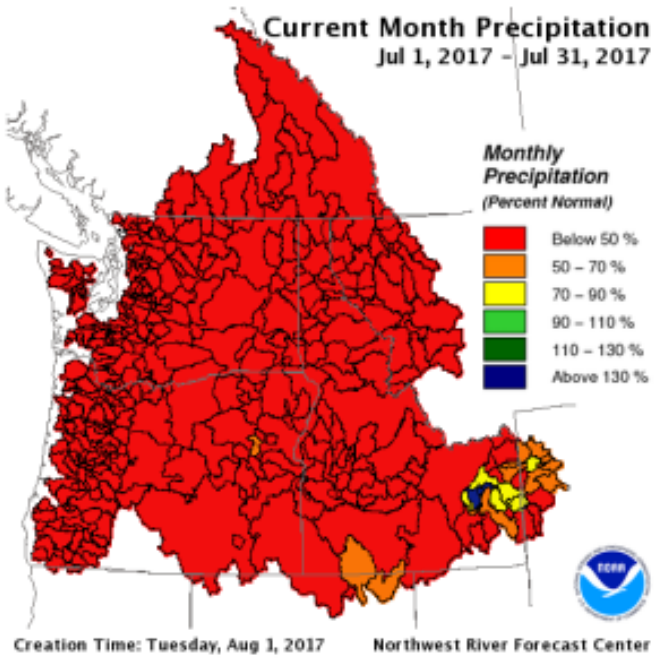
https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20170701/CurMonMAT_2017Jun30_2017070117.png



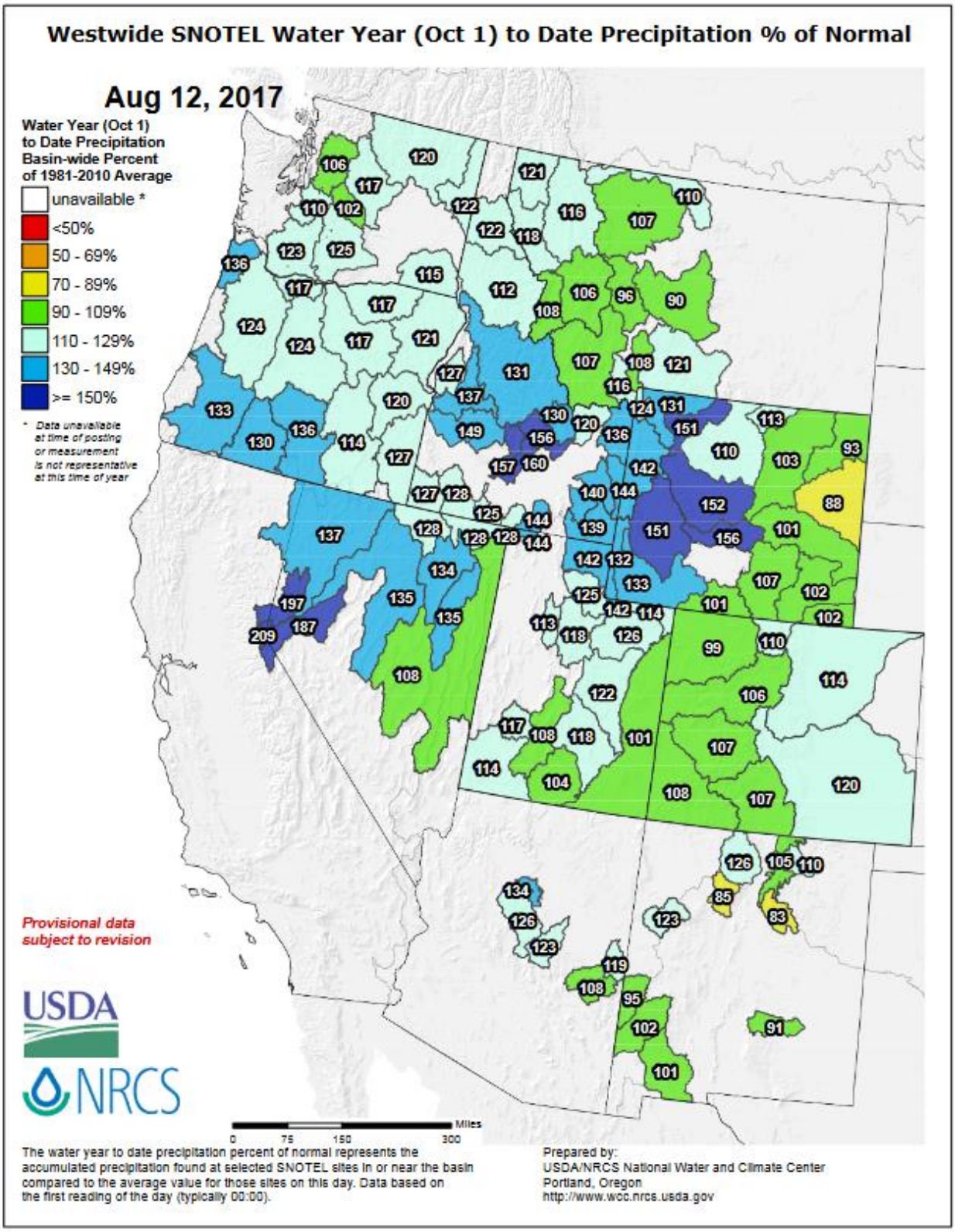
http://prism.oregonstate.edu/comparisons/anomalies.php



https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20170701/CurMonMAT_2017Jun30_2017070117.png

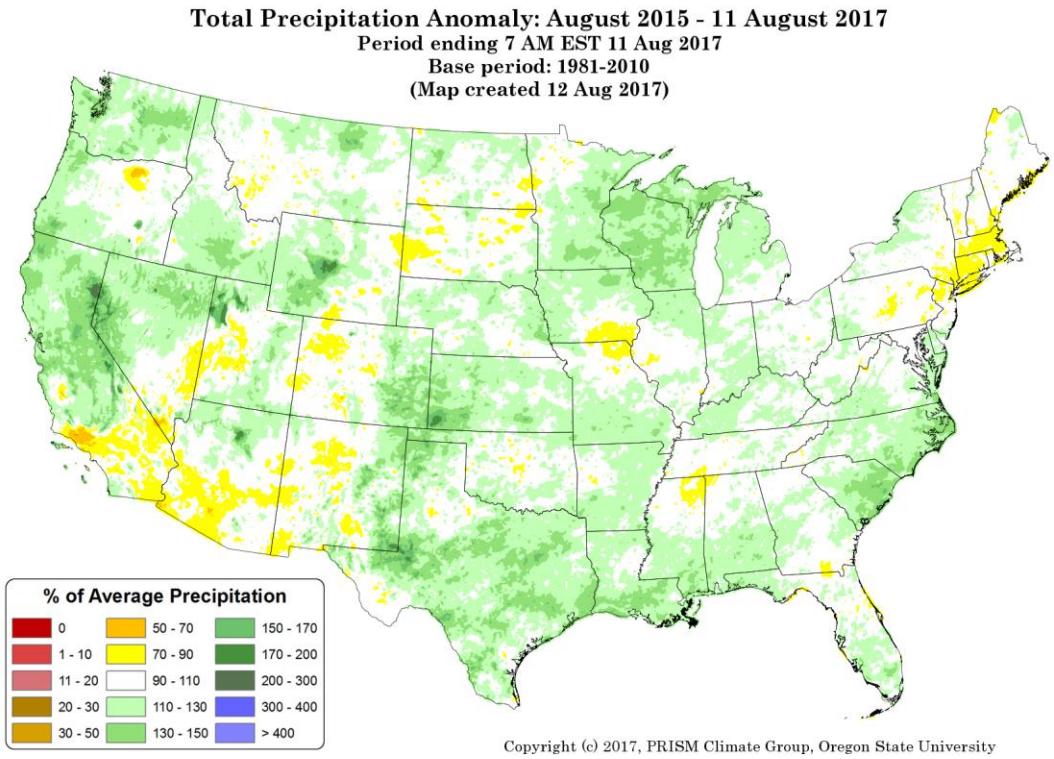


https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20170701/CurMonMAP_2017Jun30_2017070117.png

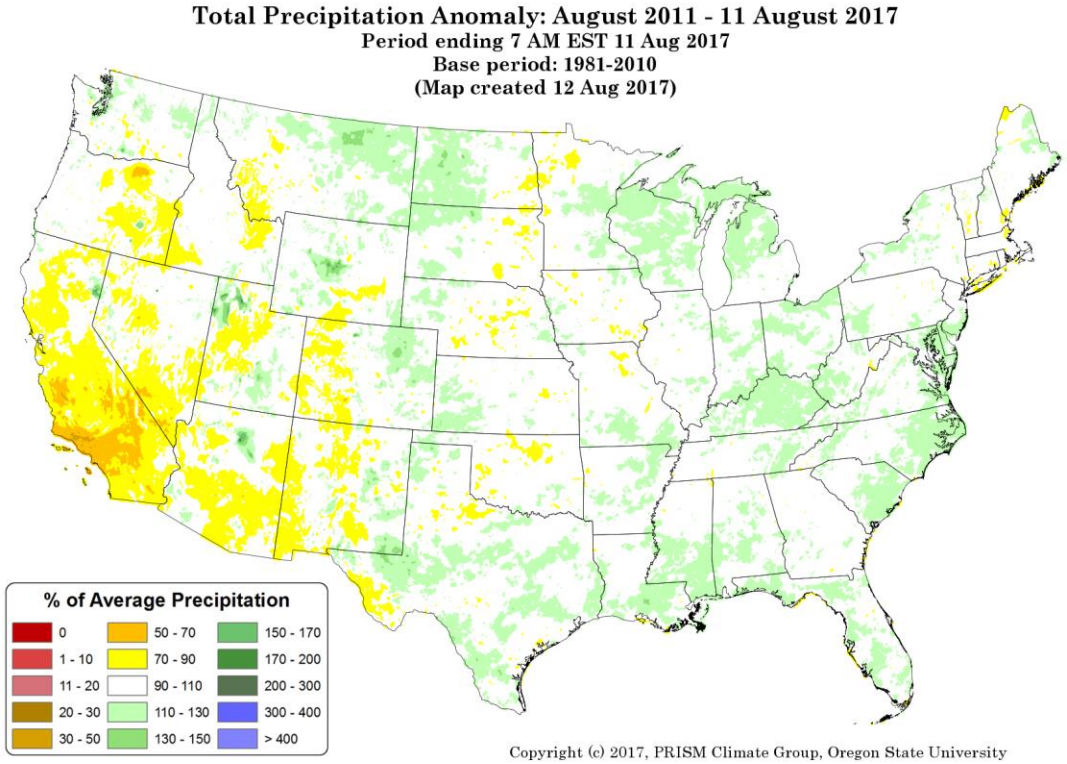


http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecpctnormal_update.pdf

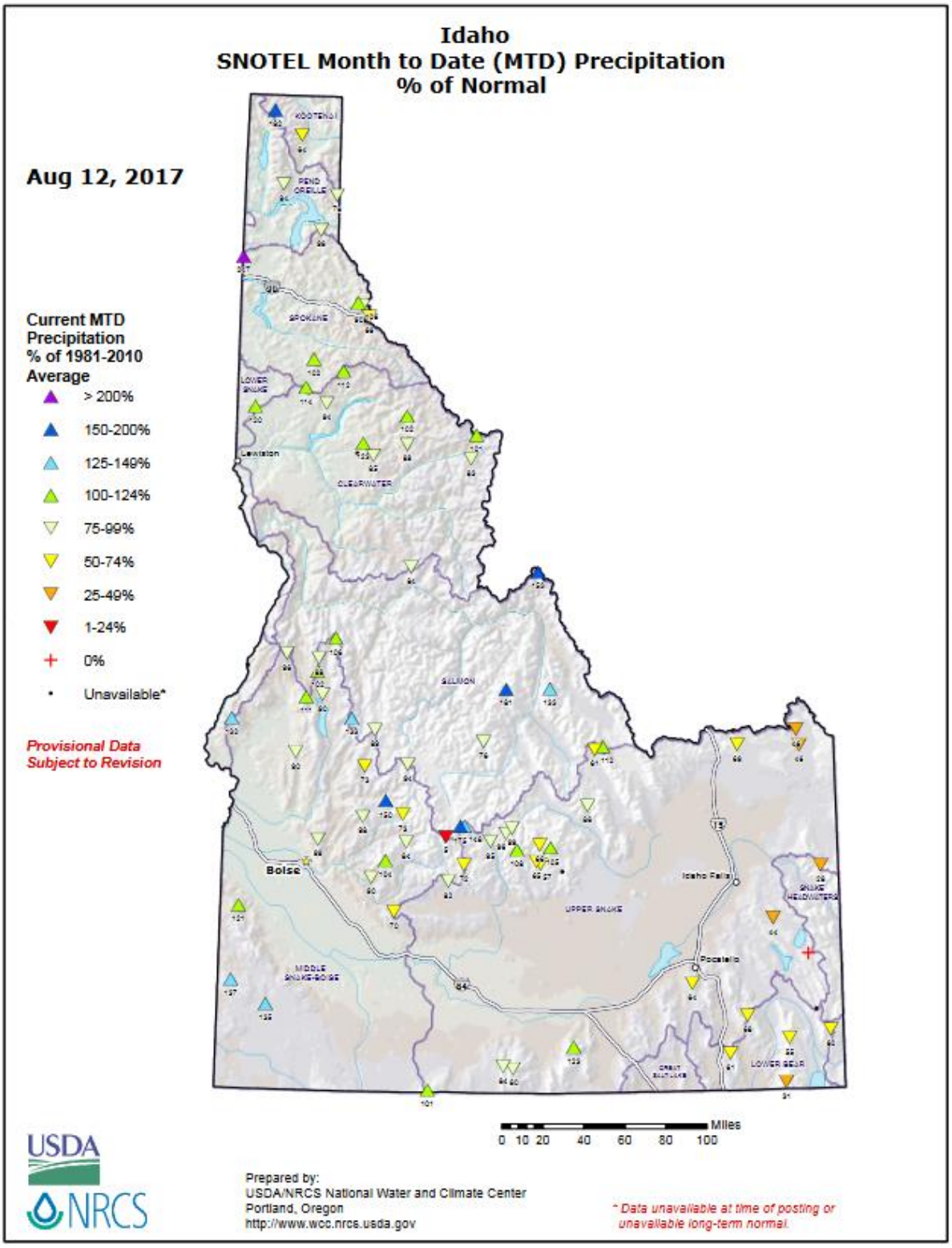
Past 2 Years of Precipitation % of Average:



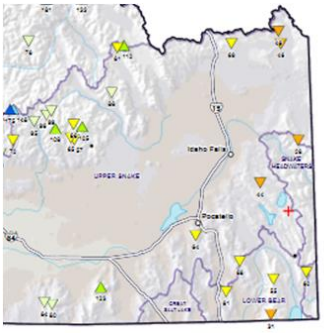
Past 6 Years of Precipitation % of Average:



www.prism.oregonstate.edu/comparisons/drought.php

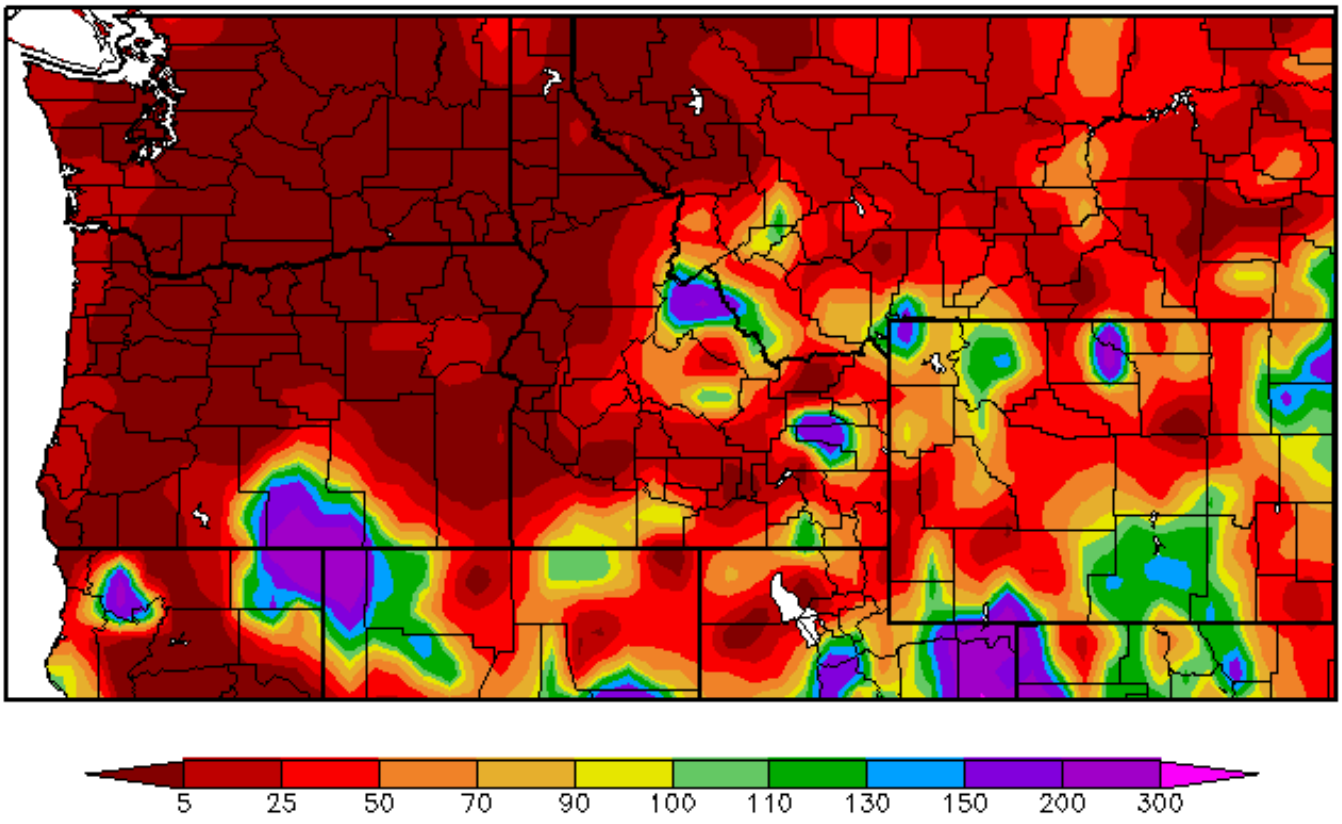


http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecpctnormal.pdf



SNOTEL MTD % of Normal Precipitation for middle of August 2017
(image is cropped from above image)

Percent of Normal Precipitation (%)
7/1/2017 – 7/31/2017



Generated 8/2/2017 at HPRCC using provisional data.

Regional Climate Centers

http://www.hprcc.unl.edu/maps.php?map=ACISClimateMaps

Most of our area received 5 to 50 percent of normal precipitation. Oneida, Franklin, south Bannock, and southeast Custer counties received 70 to 110 percent of normal precipitation. Eastern Bonneville County received 150 to 200 percent of normal with a localized strong thunderstorm on the 26th.

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ 0.2 Deg C

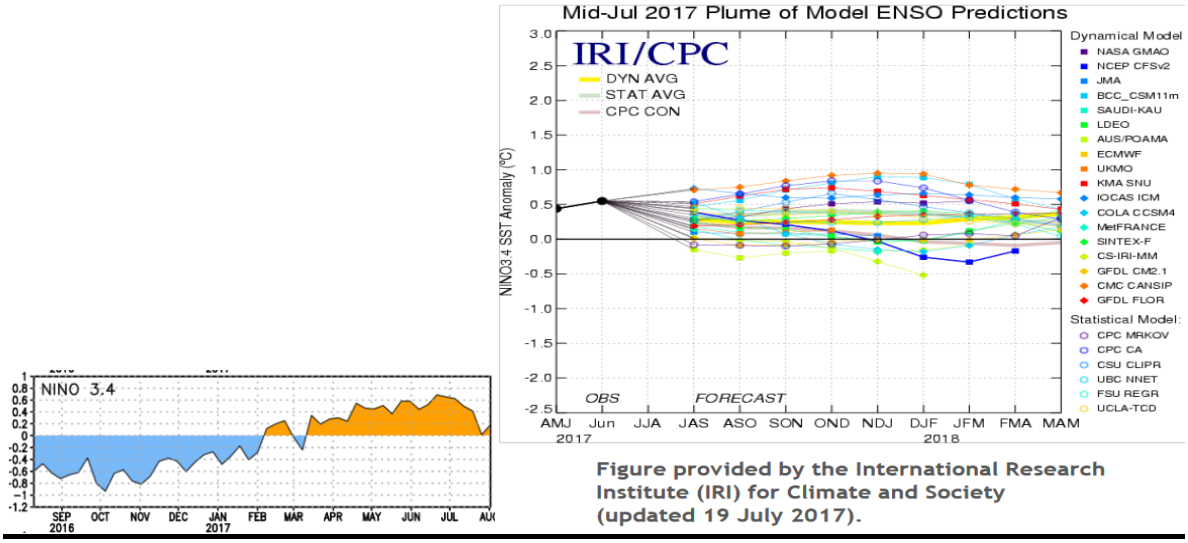


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 19 July 2017).

www.cpc.ncep.noaa.gov, iri.columbia.edu/climate/ENSO

CPC Synopsis: ENSO-neutral conditions are present. ENSO-neutral is favored (50 to ~55% chance) into the Northern Hemisphere winter 2017-2018.

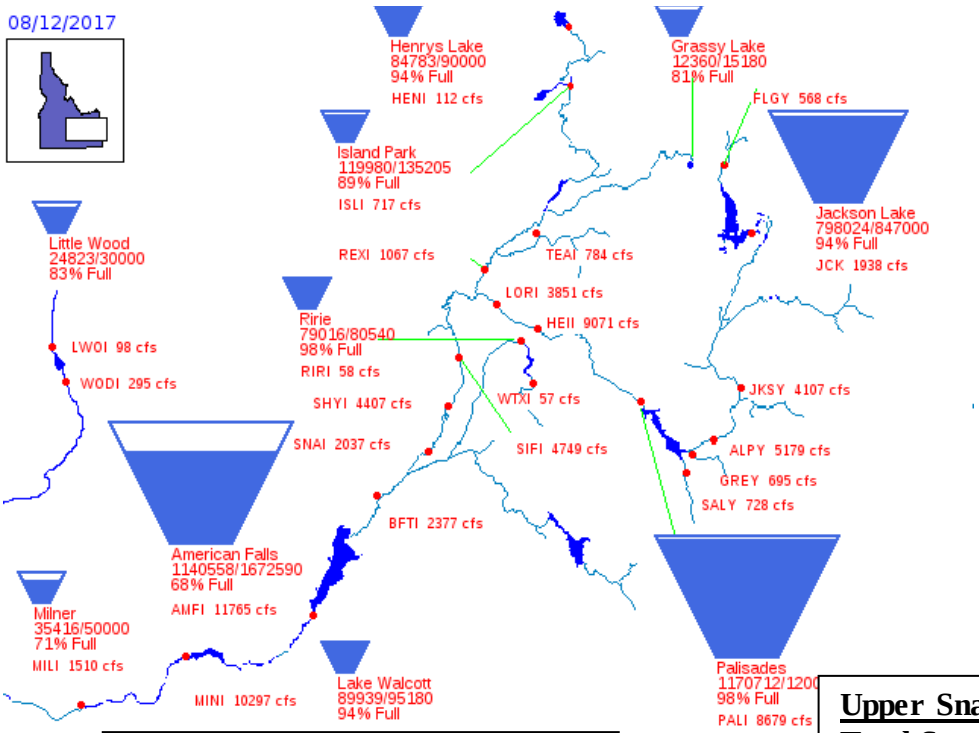
Note: Equatorial sea surface (SSTs) are near average across most of the Pacific Ocean. The Madden-Julian Oscillation (MJO) has a weak remnant signal over the central Pacific, and the MJO is not anticipated to influence the global tropical convection pattern during the next two weeks. The Pacific Decadal Oscillation (PDO) has decreased, becoming slightly negative.

Reservoirs:

Reservoir	% Capacity June 30[1]	% Capacity July 31[2]	Percent Change	% of Average[2]	% of Average Last Year[2]
Jackson Lake	99	97	-2	128	104
Palisades	100	99	-1	137	79
Henrys Lake	101	96	-5	107	104
Island Park	100	91	-9	132	53
Grassy Lake	100	90	-10	107	95
Ririe	100	99	-1	120	113
Blackfoot	95	87	-8	153	115
American Falls	100	79	-21	145	56
Mackay	97	98	1	198	131
Little Wood	99	95	-4	181	112
Magic	98	92	-6	180	126
Oakley	70	54	-16	167	74
Bear Lake	93	92	-1	173	81
Lake Walcott	100[3]	94[4]	-6	n/a	n/a
Milner	70[3]	71[4]	1	n/a	n/a

Source: (1) NRCS May 31, 2017; (2) NRCS June 30, 2017.
(3) US Bureau of Reclamation (BOR) June 16, 2017 (4) BOR July 12, 2017

http://www.wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_8_2017.pdf

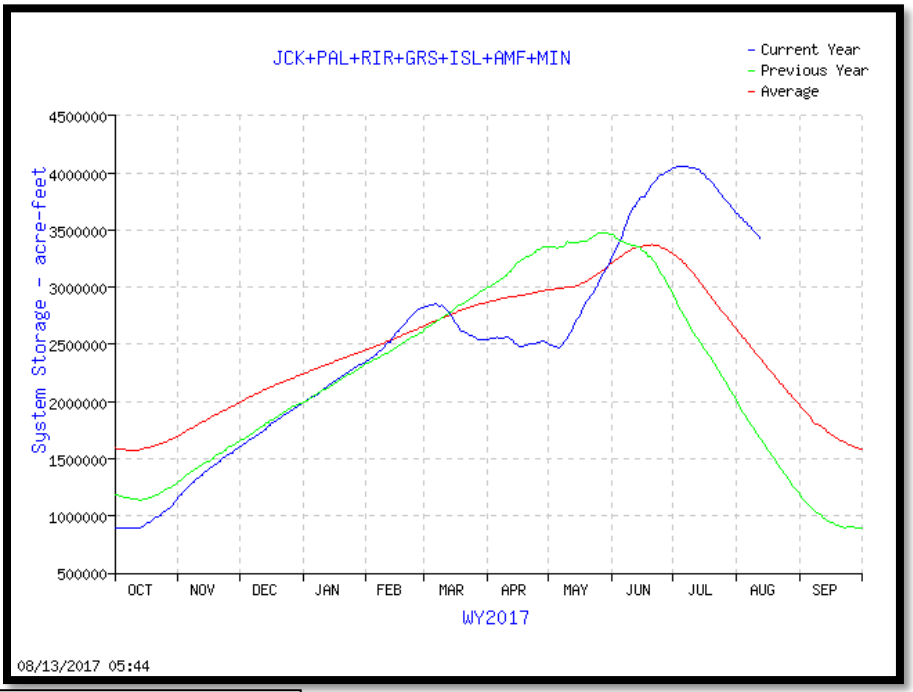


www.usbr.gov/pn/hydromet/burtea.html

84% of Capacity in Upper Snake River System
(Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

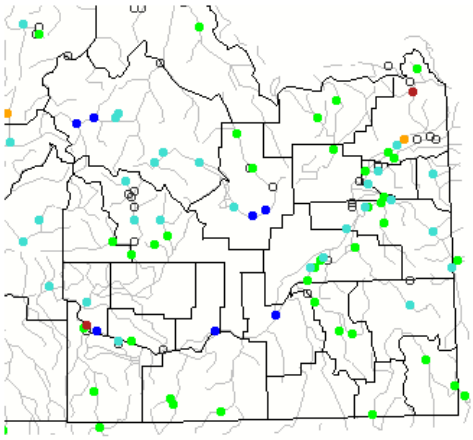
Upper Snake River:
Total Space Available: 635,107 AF
Total Storage Capacity: 4,045,695 AF

Graph of Upper Snake River Current Total System Reservoir Storage



https://www.usbr.gov/pn-bin/graphwy.pl?snasys_af

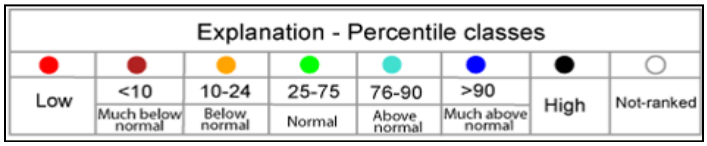
Streamflow:

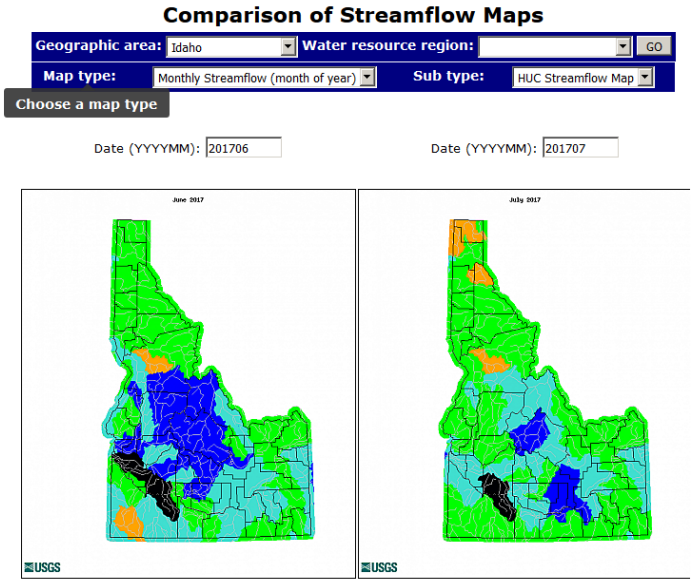


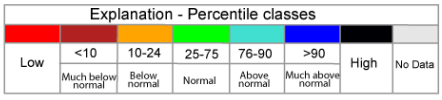
Monthly average streamflow compared to historical average streamflow for July 2017.

USGS

https://waterwatch.usgs.gov/index.php?r=id&id=mv01d



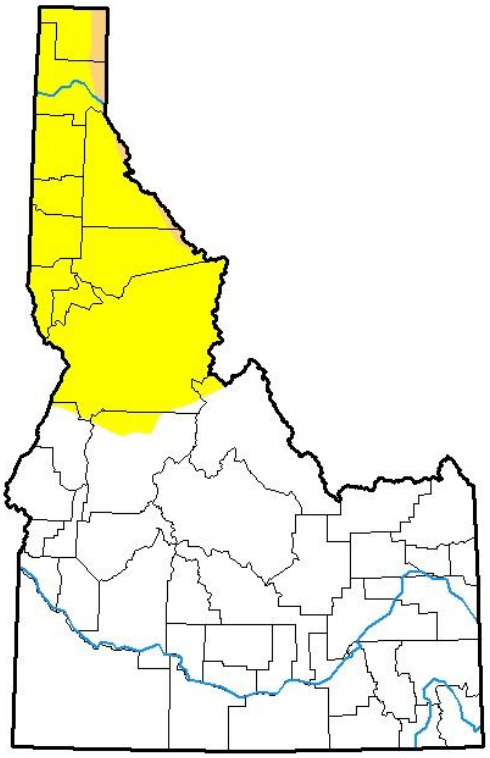




http://waterwatch.usgs.gov/index.php?id=wwchart_map2

Drought:

U.S. Drought Monitor
Idaho



August 8, 2017
(Released Thursday, Aug. 10, 2017)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	73.62	26.38	1.14	0.01	0.00	0.00
Last Week 08-01-2017	79.17	20.83	1.14	0.00	0.00	0.00
3 Months Ago 05-09-2017	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 01-03-2017	89.98	10.02	0.04	0.00	0.00	0.00
Start of Water Year 09-27-2016	6.14	93.86	8.89	0.00	0.00	0.00
One Year Ago 08-09-2016	29.66	70.34	1.41	0.02	0.00	0.00

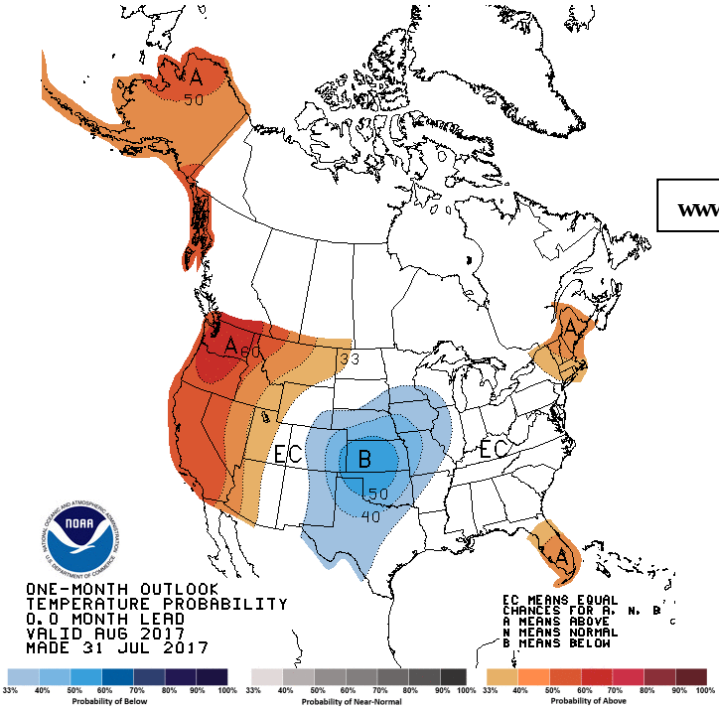
Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

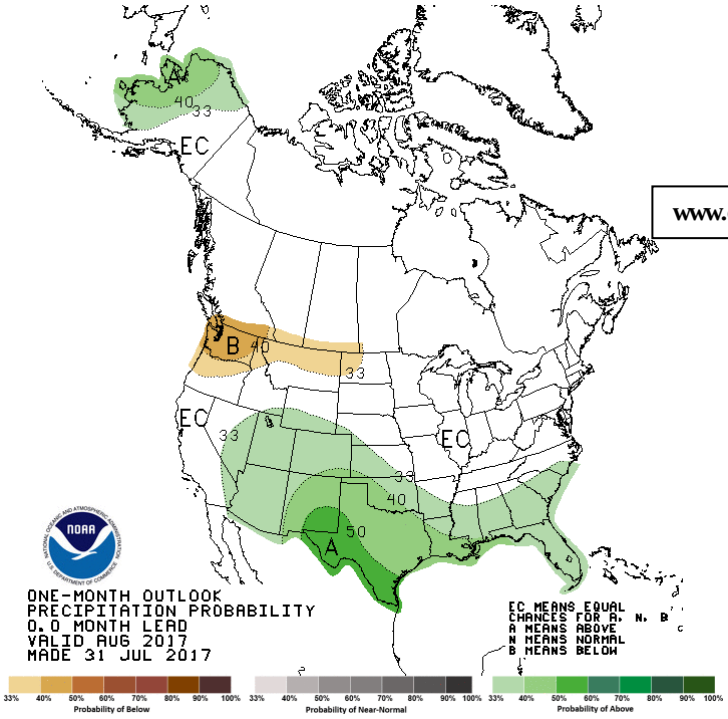
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Deborah Bathke
National Drought Mitigation Center

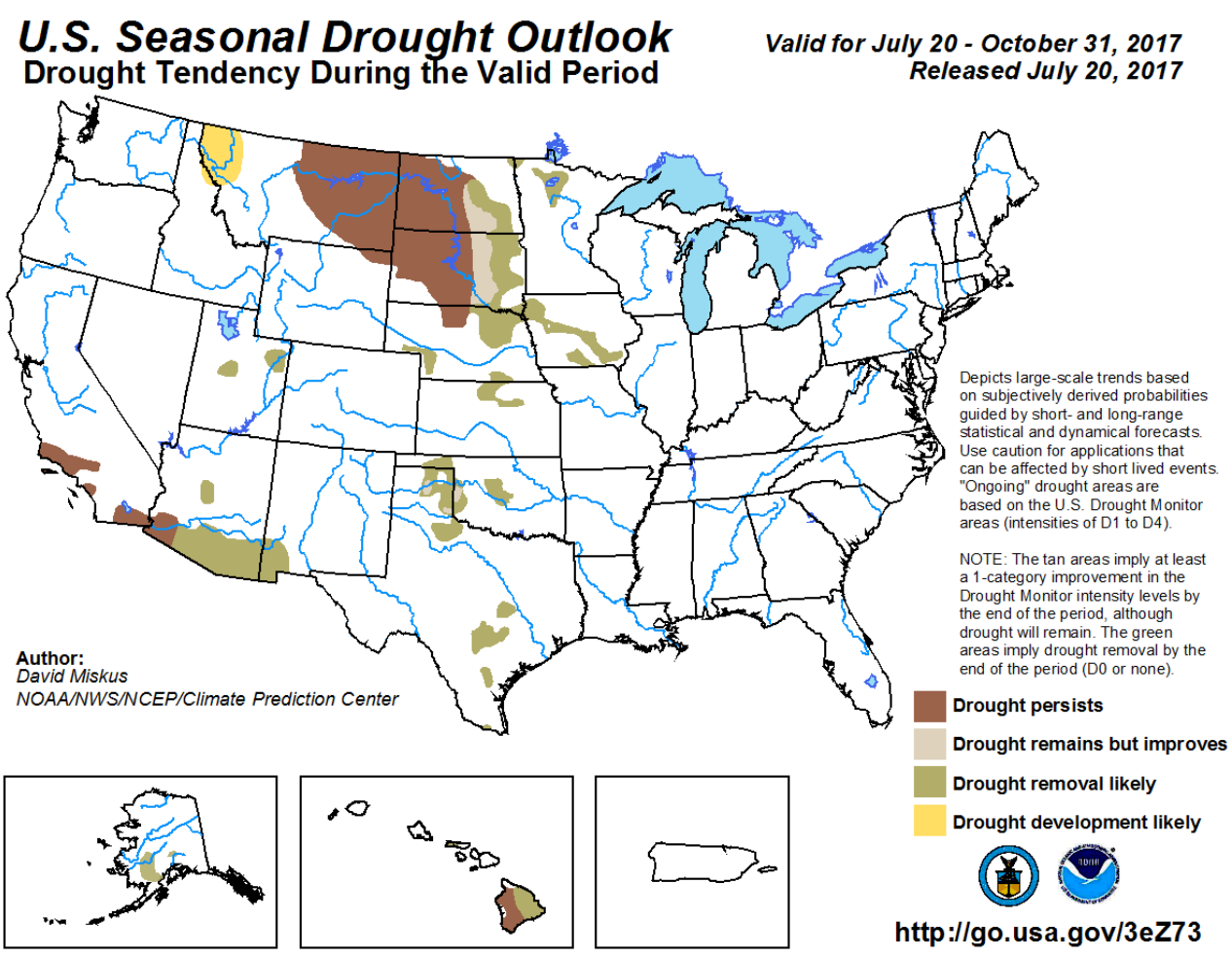
http://droughtmonitor.unl.edu/



www.cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif



www.cpc.ncep.noaa.gov/products/predictions/30day/off15_prcp.gif



www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

cc:

Jeff Zimmerman, Acting Western Region HCSD
Joe Intermill, Hydrologist-in-Charge, Northwest River Forecast Center
Steve King, Service Coordination Hydrologist /Acting DOH, Northwest River Forecast Center
Michelle Stokes, Hydrologist-in-Charge, Colorado Basin River Forecast Center
Paul Miller, Service Coordination Hydrologist, Colorado Basin River Forecast Center
John Lhotak, Development and Operations Hydrologist, Colorado Basin River Forecast Center
Hydrometeorological Information Center
Dean Hazen, Meteorologist-in-Charge, Pocatello, Idaho
Kurt Buffalo, Science and Operations Officer, Pocatello, Idaho
Vern Preston, Warning Coordination Meteorologist, Pocatello, Idaho
Troy Lindquist, Senior Service Hydrologist, Boise, Idaho
Brian McInerney, Senior Service Hydrologist, Salt Lake City, Utah
Kevin Berghoff, Senior Hydrologist, Northwest River Forecast Center
Taylor Dixon, Hydrologist, Northwest River Forecast Center
Brent Bernard, Hydrologist, Colorado Basin River Forecast Center
PIH Mets/HMT (pih.ops)

End

tw